LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES

OFFICE OF FISHERIES
INLAND FISHERIES SECTION

PART VI -A

WATERBODY MANAGEMENT PLAN SERIES

LAKE VERRET, GRASSY LAKE AND LAKE PALOURDE

LAKE HISTORY & MANAGEMENT ISSUES

CHRONOLOGY

November 2, 2009 – Prepared by
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WATER BODY HISTORY

GENERAL INFORMATION

Date reservoir formed

Natural lake dates to pre-1700s.

Size

Lake Verret (120204) - 14,080 acres
Grassy Lake (120210) – 1,024 acres
Lake Palourde (120205) – 11,520 acres

Watershed

Watershed size and ratio: 246,000 acres (17.5:1 ratio)

Lake Verret is the receiving water of the watershed for the Verret/Grassy/Palourde complex. All water draining from Lake Verret goes through Grassy Lake and Lake Palourde by way of interconnecting bayous and canals to Bayou Boeuf and flows into the main channel of the Atchafalaya River below Morgan City. When the Atchafalaya River stage is elevated, water backs into the system and no water exits the system until the river stage decreases.

The Lake Verret watershed is in the central Gulf Coast area of Louisiana. It is bounded on the north by the high bank of Bayou Plaquemine and the Mississippi River levee; on the east by the high bank of Bayou Lafourche; on the west by Grand River, Bay Natchez, and Belle River; and on the south by Lake Verret to the Lafourche Parish line. Plaquemine, Donaldsonville, White Castle, and Napoleonville are incorporated towns in the watershed. Several smaller communities are in the area.

There are two other operational P.L.-566 watershed projects that are hydrologically associated with the Lake Verret Watershed – Bayou Grosse Tête and Choctaw Bayou. Both are located to the north in Pointe Coupee and West Baton Rouge Parishes respectively. The outlet for the Bayou Grosse Tête Watershed is Bayou Grosse Tête which drains into Lower Grand River. The outlet for the Choctaw Bayou Watershed is Choctaw Bayou which empties into the Intracoastal Waterway southwest of Port Allen, Louisiana.

The watershed covers 246,000 acres, which include 22,300 acres (34.84 square miles) in Ascension Parish, 104,500 acres (163.28 square miles) in Assumption Parish, and 119,200 acres (186.25 square miles) in Iberville Parish. About 37 percent of the area is cropland; 4 percent is pastureland; 51 percent is forest land; and 8 percent is in miscellaneous uses. The miscellaneous area includes roads, channels, industrial sites, farmsteads, urban areas, etc. The urban areas include several small communities located along the high banks of the large bayous.

The watershed is generally low flatland, with elevations ranging from approximately 20 feet above sea level in the north to less than 2 feet above mean sea level in the south. The higher land adjacent to the Mississippi River and the ridges along the many streams are highly developed agriculturally.

Internal drainage is through a series of bayous and canals that drain into Lake Verret. Drainage is generally toward the west and south, away from the high banks of Bayou Lafourche and the Mississippi River. Characteristic of streams in the low-lying coastal lands, the channel gradients are low. Storm runoff from Lake Verret is through a series of lakes and bayous connecting with the Gulf of Mexico.

The watershed is located in the Atchafalaya River Basin of the Lower Mississippi River Region. The topography, climate, and problems are fairly typical of other flatland watersheds in the alluvial valley of this region.

(USDA, 1978) – See APPENDIX I - BIBLIOGRAPHY

Parish/s located

Assumption, Lower St. Martin, St. Mary SEE APPENDIX II – MAP OF PARISHES

Border waters

Belle River, Bayou Magazille, Grand Bayou, 4-mile Bayou, Bayou Gros Bec, and Bayou Boeuf.

WATER BODY AUTHORITY

Owner

State of Louisiana (State water bottom)

Association

Louisiana Department of Natural Resources – water bottoms
Louisiana Wildlife and Fisheries Commission – all fish and wildlife

Authorization

Title 56, Title 76

ACCESS

Boat docks

Public boat launching facilities are located in Table 1, but there are also many private boat docks at camps.

Table 1. Boat launching facilities Verret, Grassy, Palourde.

BOAT LAUNCHING FACILITIES		
Name	**Coordinates**	**Public Owned**
Amelia Boat Ramp	29.661267°, -91.100585°	YES
Lake End	29.718083°, -91.186619°	NO
Doiron's	29.763770°, -91.173781°	NO
Stephensville	29.765633°, -91.174263°	NO
Adam's Landing	29.849320°, -91.191204°	NO
Shell Beach	29.900247°, -91.185825°	NO
Pierre Part	29.963600°, -91.210321°	NO
Spunky Monkey	29.908259°, -91.216517°	NO
Bayou Corne	30.014775°, -91.154205°	NO
Attakapas	29.850216°, -91.102570°	YES

SEE APPENDIX III - MAP OF BOAT RAMPS

Piers

N/A

State/Federal facilities

None

Reefs

None

SHORELINE DEVELOPMENT

State/National Parks

Elm Hall WMA
http://www.wlf.louisiana.gov/wma/2759

Shoreline development by landowners

Some housing and many camps on canals and bayous connected to lakes plus many camps on lake shore. Essentially all bottomland hardwoods beyond the cypress/tupelo swamp have been cleared for agricultural and urban use.

PHYSICAL DESCRIPTION OF WATER BODY

Shoreline length

Lake Verret - Approx. 36.2 miles
Grassy Lake – Approx. 7.705 miles
Lake Palourde – Approx. 16.891 miles

Timber type

Mainly cypress/tupelo swamp

Average depth

6 feet

Maximum depth

9 feet

Natural seasonal water fluctuation

Pierre Part (Pierre Part Bridge, north Lake Verret)

Highest gauge reading - 5.00 feet on Apr 19 and later dates in 1973.
Lowest gauge reading - Minus 1.2 feet on Dec 25, 1989.

Attakapas Gauge (Attakapas Boat Ramp, southeast Lake Verret)

Highest gauge reading - 5.20 feet on Apr 21, 1973
Lowest gauge reading - Minus 0.3 feet on Jan 14, 1956

Amelia Gauge (Railroad Bridge over Bayou Bouef, Lake Palourde)

Highest gauge reading - 4.90 feet on Apr 30, 1975
Lowest gauge reading - Channel dry on Jan 20, 1940

SEE APPENDIX IV - ATTAKAPAS LANDING AND AMELIA GAUGES

FISHING REGULATIONS

Recreational

Statewide regulations are in effect for all species. Recreational fishing regulations may be viewed at the link below:

http://www.wlf.louisiana.gov/fishing/regulations

The 14 inch bass length limit was implemented as an emergency measure following the fish kill caused by hurricane Andrew in 1992. It was put in place to presumably protect remaining fish to spawn at least once before becoming available to harvest. It was opined that this would enhance the recovery of the bass population that was negatively impacted by the storm. In 1993, the regulation was extended with an expiration date in 1995. In 1995, it was extended again for a 2 year period of study to see if it would increase the number of large bass in anglers' creels. In 1997, it was extended, without an expiration date. In 2012,

the Inland Fisheries Section released a report entitled "Evaluation of the 14 Inch Minimum Length Limit for Largemouth Bass in the Atchafalaya Basin and Adjacent Waters, Louisiana" which detailed the largemouth bass population dynamics and recreational fishery for the previous 22 years. This study found that environmental factors such as water level fluctuations and the frequency of severe tropical storms have a primary role in the growth and survival rates of the bass population. In conclusion, slow growth and short life span of the area's bass and the frequency of catastrophic environmental events are inherent and incontrollable factors that cannot be mitigated by the 14 inch minimum length limit (MLL). As such, the 14 inch MLL is an ineffective regulation for the purpose of protecting largemouth bass and increasing the abundance of larger size bass in the Atchafalaya Basin and surrounding area. Link to the full report:
http://www.wlf.louisiana.gov/sites/default/files/pdf/document/35987-atchafalaya-basin-lmb-technical-report-10-01-2012/atchafalaya_basin_lmb_technical_report_1o-01-2012.pdf

Commercial

LDWF commercial fishing regulations may be viewed at the link below:

http://www.wlf.louisiana.gov/fishing/regulations

Commercial fishing gear

Title 56

§322.1. Shad seine; commercial harvest of shad and skipjack herring

A. A commercial fisherman licensed in accordance with R.S. 56:303 and 305(B) (16) may take shad, skipjack, and any other freshwater commercial fish of legal size with a shad seine in accordance with this Section.

B. Only shad (*Dorosoma* spp.), skipjack herring (*Alosa chrysochloris*), hereafter in this Section referred to as skipjack, and any other legal-sized freshwater commercial fish may be taken with a shad seine; all other fish shall be immediately returned to waters from which they were caught. All fish on board the vessel shall have the head and caudal fin intact.

C.(1) A shad seine shall be a seine with a mesh size not less than one-inch bar and two inches stretched and not more than two-inch bar and four inches stretched. A shad seine may not be constructed of monofilament.

(2) Each shad seine shall have affixed to each end a one-gallon jug, painted international orange and marked in black lettering the words "Shad Seine", and waterproof tags with the name and license number of the fisherman in accordance with R.S. 56:320(F).

D. *Repealed by Acts 2008, No. 24, §2.*

E. Only strike fishing is authorized by this Section.

F. The following acts are prohibited:

(1) The use of more than one shad seine by a licensee.

(2) The use of more than one seine per vessel.

(3) The use of a shad seine by more than two vessels at one time.

(4) The use of a shad seine in such a manner that unduly restricts navigation of other vessels or interferes with commercial shipping activities.

(5) Leaving a shad seine unattended or not actively fishing it while it is in the water.

G. A shad seine may only be fished in the freshwater areas of the state, but it shall not be used in the bodies of water where seine use is prohibited nor the Pearl River or the Pearl River navigational canal.

H. There shall be no daily take or possession limit for the commercial harvest of shad and skipjack taken under the provisions of this Section by properly licensed shad seine commercial fishermen.

I. Violation of any of the provisions of this Section, except for Paragraph (F)(4) and Subsection G, constitutes a class four violation. Violation of Paragraph (F)(4) constitutes a class three violation. Violation of Subsection G constitutes a class two violation.

Acts 2003, No. 274, §1; Acts 2004, No. 86, §1, eff. May 28, 2004; Acts 2008, No. 24, §§1, 2.

§322.2. Shad gill nets; commercial harvest of shad and skipjack herring

A. A commercial fisherman licensed in accordance with R.S. 56:303 and 305(B)(4)(f) may take shad and skipjack with a shad gill net in Lake Palourde, Lake Verret, Lac Des Allemands, all of the waterways in Iberville Parish, and those portions of the parishes of Iberia, St. Martin, and St. Mary located between the guide levees of the Atchafalaya Basin but is specifically not authorized to do so in the streams, bayous, canals, and other water bodies connected with the specified lakes.

B. Shad gill nets shall be used only to take shad (*Dorosoma* spp.) and skipjack herring (*Alosa chrysochloris*), hereafter in this Section referred to as skipjack. However, a commercial fisherman may keep other commercial fish species up to a maximum of twenty-five fish. All fish on board the vessel shall have the head and caudal fin intact.

C.(1) A shad gill net shall be a gill net with a mesh size not less than one-inch bar and two inches stretched and not more than two-inch bar and four inches stretched.

(2) Each shad gill net shall have affixed to each end a one- gallon jug, painted international orange and marked in black lettering the words "Shad Gill Net", and waterproof tags with the name and license number of the fisherman in accordance with R.S. 56:320(F).

(3) Each shad gill net shall be placed at least fifty feet from the tree line.

D.(1) The closed season for commercially harvesting shad and skipjack as provided for in this Section shall include the months of July, August, September, and October of each year. Shad and skipjack may be taken after sunset and before sunrise during open season. However, there shall be no commercial taking of shad or skipjack on any Saturday or Sunday.

(2) During the open season, there shall be no daily take or possession limit for the commercial harvest of shad and skipjack by properly licensed shad gill net commercial fishermen.

E. Only strike fishing is authorized by this Section. Once deployed, the shad gill net shall remain stationary until fish are being removed from the net or the net is being retrieved from the water.

F. The following acts are prohibited:

(1) The use of more than one shad gill net by a licensee.

(2) The use of more than one gill net per vessel.

(3) The use of a shad gill net by more than two vessels at one time.

(4) The use of a shad gill net in a manner that unduly restricts navigation of other vessels.

(5) Leaving a shad gill net unattended or not actively fishing it while it is in the water.

G. Repealed by Acts 2010, No. 589, §2.

H. Violation of any of the provisions of this Section, except for Paragraphs (C)(2) and (F)(4), constitutes a class four violation. Violation of Paragraph (C)(2) or (F)(4) constitutes a class three violation.

I. Repealed by Acts 2010, No. 589, §2.

Acts 2003, No. 379, §1; Acts 2004, No. 825, §1; Acts 2006, No. 419, §1; Acts 2008, No. 24, §1; Acts 2010, No. 589, §§1, 2.

MANAGEMENT ISSUES

EVENTS / PROBLEMS

Numerous fish kills in this system occur in oilfield canals that connect to agriculture drainage canals. During periods of heavy rainfall, the organic material sequestered in dry fields is suddenly washed into canals and increases the biological oxygen demand to levels that deprive fish of oxygen needed for survival. Normally these kills do not extend all the way to the mouths of the canals at the lakes.

Sediment sequestering is prevalent in these lakes. Although not fully documented, the areas that have become shallower seem to be increasing. It is a common problem with waters adjacent to areas that have experienced significant land use change. Mature growth bottomland habitats have been cleared for agriculture and drainage projects have increased the rate of gravity drainage. The results of this situation include increased sediment transport and decreased filtration of rain runoff.

Nutrient loading associated with the increased runoff from urban and agricultural areas has increased plankton blooms in this system. There have been no problems associated with these blooms so far but in time they have the potential to cause problems associated with stratification of dissolved oxygen levels in the main bodies of the lakes. There is a possibility that the bloom becomes so thick at the surface there is no sunlight penetration to the lower parts of the water column. Under these conditions, there is a risk that lake turnover could cause fish kills at times of the years when ambient temperatures are highest.

AQUATIC VEGETATION

Complaints related to vegetation are not frequent for Verret, Grassy, and Palourde. Occasionally, back canals get a fringe of water hyacinth as well as some submerged vegetation. Each year the lakes get trace amounts of submerged, emergent, and floating vegetation. Hurricanes and tropical storms that deposit large amounts of rainfall in the area can cause large rafts of floating plants to be flushed into the system from connecting bayous to the north as evidenced following Hurricane Isaac in 2012.

In the past, the U.S. Army Corps of Engineers (USACE) has been responsible for vegetation control in this area. However, USACE only sprayed aquatic vegetation that was impeding navigation. Effective October 1, 2011, USACE discontinued aquatic plant control activities. LDWF has assumed the responsibility.

Type map

Type mapping was conducted in the fall months of 2005 and 2006.
SEE APPENDIX V – TYPE MAPS

Biomass

No biomass sampling conducted to date.

Past control measures

Chemical

Historically, vegetation control for Grand Bayou, Lake Verret, Grassy Lake, & Lake Palourde has been the responsibility of the US Army Corps of Engineers (USACE). Herbicide applications were limited in scale and conducted to control emerged vegetation only. Funding for those efforts was discontinued in 2011 and LDWF assumed responsibility for treatment in 2012. Water hyacinth is typically controlled with applications of 2,4-D (0.5 gal/acre) and a non-ionic surfactant (1 pt/acre). Salvinia is treated with a mixture of glyphosate (0.75 gal/acre), diquat (0.25 gal/acre), and Turbulence (0.25 gal/acre) from April 1 – October 31. From November 1 – March 31, salvinia is controlled with diquat (0.75 gal/acre) and a non-ionic surfactant (0.25 gal/acre).

In 2015, a contract herbicide application was utilized in the Grassy Lake and Lake Palourde area. Specifically, in the Grassy Lake area - Bayou Sherman and Bay Sherman, and in the Lake Palourde area - Bayou Cheramie and adjacent canal systems. Alligatorweed and water hyacinth were the focus of the herbicide application. Because these two plant species were found in combination, Polaris AQ (imazapyr) was utilized in the treatment area. The application proved to be effective with little regrowth in the area for the remainder of the growing season.

Table 2. Herbicide Treatments in the Verret, Grassy, and Palourde lakes area, 2012-2015.

Acres of vegetation treated in the Lake Verret/Grassy Lake/Lake Palourde area, 2012-2015			
	Lake Verret	Grassy Lake	Lake Palourde
2012	73	-	-
2013	410	-	240
2014	-	-	-
2015	-	160	160

Biological

While no solid mats of giant salvinia have been found in any of these areas, the area does contain scattered giant salvinia. Presumably, the plant was introduced into this system from areas north of Lake Verret, such as Bay Natchez. Due to repeated weevil stocking efforts in the areas north of Lake Verret, the giant salvinia found in the Verret/Grassy/Palourde area contains weevils.

Giant salvinia will continue to be sampled in these areas to determine presence/absence of weevils. Should an area be located that contains solid or matted giant salvinia, weevils will be

stocked.

Lake Verret, including the Grand Bayou/Bay Alcide areas as of December 21, 2015

Problematic Species:
Water hyacinth (*Eichhornia crassipes*) – 30 acres
Common salvinia (*Salvinia minima*) – 30 acres
Giant salvinia (*Salvinia molesta*) – 10 acres
Hydrilla (*Hydrilla verticillata*) – 50 acres
Alligator weed (*Alternanthera philoxeroides*) – 20 acres
Cuban bulrush (*Oxycaryum cubense*) – 15 acres
Primrose (*Ludwigia spp.*) – 20 acres

Beneficial Species:
Coontail (*Ceratophyllum demersum*) – 50 acres
Fanwort (*Cabomba caroliniana*) – 25 acres
American lotus (*Nelumbo lutea*) – 40 acres (in summer)

Grassy Lake as of December 21, 2015

Problematic Species:
Water hyacinth (*Eichhornia crassipes*) – <5 acres
Common salvinia (*Salvinia minima*) – <5 acres
Hydrilla (*Hydrilla verticillata*) – <5 acres
Alligator weed (*Alternanthera philoxeroides*) – <5 acres

Beneficial Species:
Coontail (*Ceratophyllum demersum*) – <5 acres
Fanwort (*Cabomba caroliniana*) – <5 acres
American lotus (*Nelumbo lutea*) – 10 acres (in summer)

Lake Palourde, including the Bayou Cheramie/Sherman areas as of December 21, 2015

Problematic Species:
Water hyacinth (*Eichhornia crassipes*) – 30 acres
Common salvinia (*Salvinia minima*) – 50 acres
Hydrilla (*Hydrilla verticillata*) – 40 acres
Alligator weed (*Alternanthera philoxeroides*) – 20 acres
Cuban bulrush (*Oxycaryum cubense*) – 15 acres
Primrose (*Ludwigia spp.*) – 20 acres

Beneficial Species:
Coontail (*Ceratophyllum demersum*) – 30 acres
Fanwort (*Cabomba caroliniana*) – 20 acres
American lotus (*Nelumbo lutea*) – 20 acres (in summer)

In 1992, Hurricane Andrew caused a major fish kill in the system of Lake Verret through Lake Palourde and into the coastal marsh. All species of fish were affected in great numbers. Many fish survived the storm related kill due to the manner that water moves through the system. There was a refuge area on the east side of Lake Verret that provided enough oxygen for the survival of fish following the storm. As anoxic water drained out of the watershed and the surrounding cypress/tupelo swamps into the canals and bayous, it was absorbed by the volume of lake water. Water draining from the watershed through Belle River to Stephensville, LA caused a total kill all the way to the west side of Lake Palourde. There, Lake Palourde began absorbing this water and there was a refuge for fish to the south and west in the lake.

In 2002, Hurricane Lili caused another fish kill in the system. Massive amounts of rainfall washed organic matter from the surrounding urban and agricultural lands into the system and exceeded the system's ability to provide enough oxygen for organic decay and fish respiration. The cypress/tupelo swamps held rainwater long enough in high atmospheric temperatures for significant dissolved oxygen declines to occur. As water drained the swamps, the anoxic water contributed to the fish kill.

Hurricane Rita, in 2005, caused another fish kill in the system. Again, some fish survived the storm in the same refuge areas as with previous storms. The storm surge of Rita, as documented on the Bayou Boeuf gauge on the railroad bridge at Amelia, entirely filled Lake Palourde with waters of up to 9.0 parts per thousand (PPT), salinity reading. Red drum were recorded in LDWF standardized sampling following the event.

Hurricanes Gustav and Ike, in 2008, and Isaac in 2012, brought more of the same conditions and fish kills in the same areas as all prior storms. Once again, fish survived the storm in refuge areas. Lake Palourde was filled with saline water again and red drum were found in subsequent standardized sampling.

WATER QUALITY

Contaminants / pollution

Data describing phosphorous and nitrogen entering Lake Verret and the rate of absorption and conversion was documented by DeLaune et al. (1991) See APPENDIX I - BIBLIOGRAPHY

Data on 2,4-D used to spray water hyacinth and its fate in a freshwater lake has been reported for the Lake Verret system. (DeLaune and Salinas, 1985) See APPENDIX I - BIBLIOGRAPHY

Mercury

There is presently no fish consumption advisory for Lake Verret or Grassy Lake.
SEE APPENDIX VI – LADEQ MERCURY DATA

BIOLOGICAL

Fish samples

Table 3. The historical, current and proposed sampling efforts on Verret, Grassy and Palourde Lakes, Louisiana 1975 to 2017.

VERRET, GRASSY, PALOURDE SAMPLING	
1975	Rotenone – 1 station
1983	Rotenone – 2 stations
1984	Rotenone – 3 stations
1985	Rotenone – 8 stations
1986	Rotenone – 8 stations
1987	Rotenone – 8 stations
1988	Rotenone – 8 stations Hoop nets – 7 stations
1989	Rotenone – 8 stations Hoop nets – 9 stations
1990	Hoop nets – 8 stations
1991	Electrofishing – 1 station (fall)
1992	Rotenone – 3 stations Electrofishing – 5 stations (spring), 5 stations (fall)
1993	Gill nets – 3 stations Electrofishing – 5 stations (spring), 5 stations (winter)
1994	Electrofishing – 10 stations (spring)
1995	Electrofishing – 5 stations (spring), 5 stations (fall)
1996	Electrofishing – 6 stations (spring), 6 stations (fall)
1997	Rotenone – 3 stations Electrofishing – 6 stations (fall)
1999	Electrofishing – 7 stations (fall)
2000	Gill nets – 3 stations
2001	Electrofishing – 6 stations (spring), 7 stations (fall)
2002	Gill nets – 1 station

2003	Rotenone – 8 stations Electrofishing – 6 stations (spring)
2004	Gill nets – 3 stations Electrofishing – 8 stations (spring), 2 stations (fall)
2005	Rotenone – 8 stations Gill nets – 3 stations Electrofishing – 8 stations (spring), 9 stations (fall)
2006	Gill nets – 3 stations Electrofishing – 9 stations (spring), 9 stations (fall)
2007	Gill nets – 3 stations Electrofishing – 9 stations (spring), 9 stations (fall)
2008	Gill nets – 3 stations Electrofishing – 9 stations (spring), 9 stations (fall)
2009	Gill nets – 3 stations Electrofishing – 9 stations (spring), 9 stations (fall)
2010	Gill nets – 3 stations Electrofishing – 9 stations (spring), 8 stations (fall)
2011	Electrofishing – 10 stations (spring), 9 stations (fall)
2012	Gill nets – 3 stations Electrofishing – 10 stations (spring), 10 stations (fall)
2013	Electrofishing – 10 stations (spring), 10 stations (fall)
2014	Electrofishing – 10 stations (spring), 10 stations (fall)
2015	Gill nets – 3 stations Electrofishing – 10 stations (spring), 2.5 stations (fall)
2016	Electrofishing – 10 stations (spring), 2.5 stations (fall)
2017	Electrofishing – 10 stations (spring), 2.5 stations (fall); creel survey
2022	Gill nets – 3 stations; Electrofishing – 10 stations (spring), 2.5 stations (fall)

Hoop nets were fished in Verret and Palourde as well as in Lake Fausse Point from 1989 to 1990 to compare the length of channel catfish captured in different mesh sizes and hoop nets with escape rings. This effort was published in the Proceedings of the Forty-Eighth Annual Conference of the Southeastern Association of Fish and Wildlife Agencies. (Walker, et al. 1994) See APPENDIX I - BIBLIOGRAPHY

Lake records

Table 4. All state records for Verret, Grassy and Palourde Lakes, Louisiana.

LOUISIANA STATE RECORDS (LOUISIANA OUTDOOR WRITERS ASSOCIATION*)				
SPECIES	**LOCATION**	**STATE RANK**	**WEIGHT (lbs.)**	**DATE CAUGHT**
White Crappie	Lake Verret	1	3.80	May 2010
Sheepshead	Lake Palourde	8	4.78	June 1997

*http://www.laoutdoorwriters.com/Records/LouisianaFishRecords/tabid/87/Default.aspx

Stocking

Table 5. Stocking for Verret, Grassy and Palourde Lakes, LA from 1993 to present.

FISH STOCKING (VERRET, GRASSY, PALOURDE COMBINED)					
YEAR	**FLMB FRY**	**FLMB FINGERLINGS**	**FLMB PHASE II**	**LMB FINGERLINGS**	**BLUEGILL**
1993				33,427	
1997	10,000				
2000		149,275			
2001		140,346			
2002		160,433			
2003		154,162			
2004		145,965			
2005		150,895			
2006		102,339			88,112
2007		143,684			
2008		97,968			
2009			4,396		
2010		4,080			
2011			990		
TOTALS	**10,000**	**1,249,147**	**5,386**	**33,427**	**88,112**

Species profile

Fish species collected or known to occur in Verret, Grassy, & Palourde Lakes, LA are

found in Table 6.

Table 6. Fish species collected or known to occur in Verret, Grassy, & Palourde Lakes, LA.

Family, Scientific and Common Names

Polyodontidae - paddlefishes
Polyodon spathula – paddlefish
Lepisosteidae - gars
Lepisosteus oculatus - spotted gar
Lepisosteus osseus - longnose gar
Lepisosteus platostomus – shortnose gar
Atractosteus spatula - alligator gar
Amiidae - bowfin
Amia calva - bowfin
Anguillidae – freshwater eels
Anguilla rostrata – American eel
Clupeidae - herrings
Alosa chrysochloris – skipjack herring
Dorosoma cepedianum - gizzard shad
Dorosoma petenense - threadfin shad
Brevoortia patronus – Gulf menhaden
Cyprinidae - carps and minnows
Cyprinus carpio - common carp
Ctenopharyngodon idella – grass carp
Notemigonus crysoleucas – golden shiner
Notropis atherinoides – emerald shiner
Notropis maculatus – taillight shiner
Catostomidae - suckers
Ictiobus bubalus - smallmouth buffalo
Ictiobus cyprinellus - bigmouth buffalo
Ictiobus niger – black buffalo
Erimyzon sucetta – lake chubsucker
Ictaluridae - North American catfishes
Ameiurus melas – black bullhead
Ameiurus natalis – yellow bullhead
Ictalurus furcatus - blue catfish
Ictalurus punctatus - channel catfish
Pylodictis olivaris - flathead catfish
Noturus spp. – madtom
Aphredoderidae – Pirate perch
Aphredoderus sayanus – pirate perch
Poeciliidae - livebearers
Gambusia affinis – western mosquitofish
Atherinidae - silversides
Menidia audens – Mississippi silverside

Menidia beryllina – Inland silverside
Moronidae - temperate basses
Morone chrysops – white bass
Morone mississippiensis – yellow bass
Morone saxatilis - striped bass
Striped bass x white bass - hybrid striped bass
Centrarchidae - sunfishes
Centrarchus macropterus - flier
Lepomis cyanellus – green sunfish
Lepomis gulosus – warmouth
Lepomis humilis – orangespotted sunfish
Lepomis macrochirus – bluegill
Lepomis marginatus – dollar sunfish
Lepomis megalotis – longear sunfish
Lepomis microlophus - redear sunfish
Lepomis punctatus – spotted sunfish
Lepomis symmetricus – bantam sunfish
Micropterus salmoides - largemouth bass
Micropterus punctulatus - spotted bass
Pomoxis annularis - white crappie
Pomoxis nigromaculatus - black crappie
Sciaenidae - drums
Aplodinotus grunniens – freshwater drum
Micropogon undulatus – Atlantic croaker
Sciaenops ocellata – Red drum
Elopidae - tarpons
Elops saurus – ladyfish
Ophichthidae – snake eels
Myrophis punctatus – speckled worm eel
Ophichthus gomesii – shrimp eel
Engraulidae - anchovies
Anchoa mitchilli – bay anchovy
Belonidae - needlefishes
Strongylura marina – Atlantic needlefish
Syngnathidae – pipefishes and seahorses
Syngnathus scovelli – Gulf pipefish
Sparidae - porgies
Archosargus probatocephalus - sheepshead
Mugilidae – mullets
Mugil cephalus – striped mullet
Gobiidae - gobies
Microgobius gulosus – clown goby
Bothidae – Left-eye flounders
Paralichthys lethostigma – southern flounder
Soleidae - soles
Achirus lineatus – lined sole
Trinectes maculatus – hogchoker

Genetics

A total of 1,249,147 Florida largemouth bass fingerlings have been stocked into the Verret, Grassy and Palourde Lakes system since 1995 (Table 5). Subsequent testing for the incorporation of the Florida genome from 1995 – 2010 (Table 7) has indicated very poor survival of pure Florida bass. There has been poor overall incorporation of the Florida genome into the coastal native bass population in this system. Florida bass stockings have been discontinued since 2010.

Table 7. Results of genetic testing on largemouth bass for the Florida genome on Verret, Grassy and Palourde Lakes, Louisiana, from 1995 - 2010.

GENETICS (VERRET, GRASSY, PALOURDE COMBINED)					
Year	**Number**	**Northern LMB**	**Florida LMB**	**Hybrid LMB**	**Florida Influence**
1995	54	96%	0%	4%	4%
1997	50	96%	0%	4%	4%
1999	118	93%	0%	7%	7%
2001	153	93%	1%	6%	7%
2003	46	98%	0%	2%	2%
2006	86	91%	1%	8%	9%
2007	102	93%	0%	7%	7%
2008	38	89%	0%	11%	11%
2009	112	90%	0%	10%	10%
2010	310	90%	0%	10%	10%

Threatened/endangered/exotic species

It is possible that Asian carp (*Hypophthalmichthys molitrix* and *H. nobilis*) have entered the system following the 2011 Mississippi River flood event. A 34-inch long silver carp (*H. molitrix*) was captured in January of 2012 in a gill net sample in Lake Verret. No other reports have been verified.

Creel

A point-access recreational creel survey was attempted in 1996 concurrent with a creel survey conducted in the adjacent Atchafalaya Basin. While anecdotal information suggested that recreational species were being harvested, almost no data were collected in the access point survey. LDWF personnel manned the public boat ramps with access to

Lake Verret, but many anglers were observed returning directly to private camps. Future efforts should include a roving survey to adequately sample the anglers in this system.

In 2004 the Louisiana Wildlife and Fisheries Commission requested a review of the regulations on the Verret/Grassy/Palourde complex. One of the questions was concerning the composition of and the opinion of anglers in the complex regarding black bass regulations. In response, a roving opinion survey of anglers was conducted by district personnel.

It was found that 20% of the anglers contacted originated from camps located in the system of lakes and bayous. The remaining anglers launched at a public ramp with access to the system. Of these anglers, 35% were bass anglers, 24% were fishing for anything that would bite, 17% were catfish anglers, 15% were bream anglers and 9% were crappie anglers.

Fifty-seven percent of all anglers preferred the 14-inch MLL regulation, 29% had no opinion and 7% wanted a 12-inch MLL with the same number, 7% in favor of a 13-inch MLL. In comparison, 52% of bass anglers preferred the 14-inch MLL, 22% wanted a 12-inch MLL, 13% favored a 13-inch MLL, 10% wanted no length limits and only 3% had no opinion.

Regarding the creel limit for bass, 59% of all anglers preferred the 10 fish limit while 69% of bass anglers preferred the same. Twenty-one percent of all anglers had no opinion while only 3% of bass anglers had no opinion. Various limits were suggested ranging from 15 bass to 5 bass under the MLL plus 5 bass over the MLL. No changes in regulations were recommended to the Commission, as this was a survey to collect information only.

HYDROLOGICAL CHANGES

The Lake Verret, Grassy Lake and Lake Palourde complex was once part of the overflow swamp of the Atchafalaya River. The levees built by the USACE to pass "project" flood down the river channel and man-made spillways cut this complex off from the natural drainage of the river-floodplain swamp. This has produced a complex dynamic system that operates differently than before this change. Now subsidence is not balanced with sediment deposition. Water from the Atchafalaya River backs into the complex instead of flowing through the complex. Thousands of acres mature bottomland hardwood habitat and cypress/tupelo swamp have been cleared for agriculture and habitation. This change in land use practices alone has produced a eutrophic complex that is greatly affected by every tropical storm that produces large amounts of rainfall. This runoff of heavy rains is no longer filtered by surrounding vegetated areas and is directed quickly and efficiently to the lakes. The results typically include fish kills in the best gamefish habitat--the canals and bayous that connect all three lakes.

This complex may be greatly affected by a coastal project planned by the USACE. It was first seen as part of a coastal planning document. There were three documents. "Coast 2050: Toward a Sustainable Coastal Louisiana", "Coast 2050: Toward a Sustainable Coastal

Louisiana, an Executive Summary", and "Coast 2050: Toward a Sustainable Coastal Louisiana, the Appendices". SEE APPENDIX VII – COASTAL PLANNING DOUCUMENTS

USACE planning revealed that, in order to "improve hydrology and drainage in the Verret sub basin"; major changes to the hydrology of the Verret/Grassy/Palourde complex would be necessary. To block water exchange from south to north, a lock and levee system would be built between the complex and the Atchafalaya River. Pumps with 12,000 cubic feet per second capacity would be installed to prevent backwater flooding above the structure. To ensure that backwater flooding would not occur, it would be necessary to create rainfall event storage by lowering the water levels in Lake Palourde by 2 feet and in Lake Verret by 1 foot.

This would be devastating to the fisheries productivity of this entire system that has an average depth of only 6 feet. It is highly probable that a lower water level would increase the growth of hydrilla, encourage the increase in populations of fish like carp and buffalo, greatly reduce access to suitable substrate for spawning game fish and greatly reduce access to much of the lake for recreational and commercial anglers. Camp owners on the lakes will be looking at an expanse of mud flats between their boat docks and piers and the water's edge.

This plan has been postponed for several years due to local opposition. There is a probability that it will be resurrected in conjunction with the newly proposed coast wide hurricane protection plan.

WATER USE

Hunting

Primarily waterfowl hunting

Fishing

Accessible to all anglers through the use of public and private boat launches from both sides of the lake and through connecting bayous and canals.

Skiing – YES

Boating – YES

Swimming - YES

APPENDIX I – BIBLIOGRAPHY

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APPENDIX II – MAP OF PARISHES

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APPENDIX III – MAP OF BOAT LAUNCHES

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APPENDIX IV - ATTAKAPAS LANDING AND AMELIA GAUGES

Lake Verret Basin
Water level elevations (NGVD) based on Attakapas Landing and Amelia Gauges

Month	Monthly Mean Attakapas 1979-98	Monthly Mean Amelia 1979-98
Jan.	2.3	2.1
Feb.	2.5	2.2
Mar.	2.7	2.4
Apr.	2.9	2.7
May	3.0	2.7
June	2.8	2.5
July	2.3	2.1
Aug.	2.0	1.9
Sept.	2.1	1.9
Oct.	2.0	1.8
Nov.	2.0	1.7
Dec.	2.2	1.9

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APPENDIX V – TYPE MAP - 2005/2006

LAKE VERRET
October 2005
O. Scott Schales

Lake Verret, Assumption Parish, was surveyed for the presence of aquatic vegetation on October 5, 2005. The water in the lake was clear with secchi disk measurements of 52-64 cm. Black "dead" water (caused from low dissolved oxygen levels) was observed in several locations flowing from the swamp on the northern and eastern portions of the lake, this was caused by the effects of Hurricane Rita that hit Louisiana's coast September 24, 2005.

Moderate amounts of hydrilla (*Hydrilla verticillata*), coontail (*Ceratophyllum demersum*), eelgrass (*Vallisneria Americana*), and thin-leaf pondweed (*Potamogeton pusillus*) was observed in the shallow coves on the northwestern portion of the lake. These plants were growing in depths up to 5 feet. Light amounts of Chara and fanwort were also found in this area. Thin-leaf pondweed was also found in the southern portion of the lake at Bayou Magazille.

A moderate shoreline fringe of water hyacinth (*Eichhornia* crassipes) was observed in the northern portion of the lake. Light to moderate amounts of common salvinia (*Salvinia minima*), duckweed (*Lemna minor*), alligatorweed (*Alternanthera philoxeroides*), American lotus (*Nelumbo lutea*), duck potato (*Sagittaria spp.*), and water paspalum (*Paspalum repens*) was also observed scattered throughout this shoreline fringe. Trace to light amounts of these plants was observed in a few isolated areas throughout the remainder of the lake.

LAKE VERRET
September 2006
O. Scott Schales

Lake Verret, Assumption Parish, was surveyed for the presence of aquatic vegetation on September 20, 2006. Turbidity in the lake varied from fairly clear water to somewhat turbid conditions with secchi disk measurements of 18-59 cm. The more turbid waters were located in the southern half of the lake, probably caused by a 10-15 mph north wind that caused choppy conditions in these areas.

Moderate amounts of hydrilla (*Hydrilla verticillata*), coontail (*Ceratophyllum demersum*), and water star grass (*Heteranthera dubia*) was observed in the shallow coves on the northwestern portion of the lake. These plants were growing in depths up to 5 feet. Light amounts of Chara were also found in this area. Light amounts of hydrilla and coontail were also found in several other locations in the lake.

A moderate shoreline fringe of water hyacinth (*Eichhornia* crassipes) was observed in the northern portion of the lake. Light to moderate amounts of common salvinia (*Salvinia minima*), alligatorweed (*Alternanthera philoxeroides*), American lotus (*Nelumbo lutea*), duck potato (*Sagittaria spp.*), and water paspalum (*Paspalum repens*) was also observed scattered throughout this shoreline fringe. Trace to light amounts of these plants was observed in a few isolated areas throughout the remainder of the lake. Moderate amounts of common salvinia were observed floating through the lake, primarily in the southwestern portion of the lake (due to a northeast wind).

GRASSY LAKE
October 2005
O. Scott Schales

Grassy Lake, Lower St. Martin Parish, was surveyed for the presence of aquatic vegetation on October 11, 2005. The water was fairly clear with secchi disk measurements of 30-35 cm.

The lake was free of submerged aquatic vegetation. Light amounts of water hyacinth (*Eichhornia crassipes*), common salvinia (*Salvinia minima*), water lettuce (*Pistia stratiotes*), alligatorweed (*Alternanthera philoxeroides*), water primrose (*Ludwigia spp.*), duck potato (*Sagittaria spp.*), and cutgrass (*Zizaniopsis miliacea*) was observed scattered around the lake. A continuous shoreline fringe of these plants was found in a shallow cove on the

northwest section of the lake.

GRASSY LAKE
September 2006
O. Scott Schales

Grassy Lake, Lower St. Martin Parish, was surveyed for the presence of aquatic vegetation on September 21, 2006. The water was fairly clear with secchi disk measurements of 28 cm.

The lake was free of submerged aquatic vegetation. Light amounts of common salvinia (*Salvinia minima*), water lettuce (*Pistia stratiotes*), alligatorweed (*Alternanthera philoxeroides*), water primrose (*Ludwigia spp.*), duck potato (*Sagittaria spp.*), and cutgrass (*Zizaniopsis miliacea*) was observed scattered around the lake. A continuous shoreline fringe of these plants was found in a shallow cove and along the lake shoreline in the northwest section of the lake. Plants observed throughout the remainder of the lake were primarily common salvinia. Other plants observed in trace amounts during the survey were water hyacinth (*Eichhornia crassipes*) and pennywort (*Hydrocotyle umbellata*).

LAKE PALOURDE
October 2005
O. Scott Schales

Lake Palourde; St. Mary, St. Martin, and Assumption parishes, was surveyed for the presence of aquatic vegetation on October 11, 2005. The water was fairly clear with secchi disk measurements of 44 cm. Water from Hurricane Rita's storm surge that hit Louisiana's coast September 24, 2005 affected Lake Palourde; it was reported that salinities in the southern part of the lake reached 8 ppt. There were no physical indications that these increased salinities affected the few aquatic plants that were observed during the survey.

The lake was free of submerged aquatic vegetation. Light amounts of water hyacinth (*Eichhornia crassipes*) and common salvinia (*Salvinia minima*) were observed in several locations around the lake. Also, light amounts of alligatorweed (*Alternanthera philoxeroides*), duck potato (*Sagittaria spp.*), and cutgrass (*Zizaniopsis miliacea*) were observed along the shoreline in several locations.

LAKE PALOURDE
September 2006
O. Scott Schales

Lake Palourde; St. Mary, St. Martin, and Assumption parishes, was surveyed for the presence of aquatic vegetation on September 13, 2006. The water was fairly clear with secchi disk measurements of 38 cm.

The lake was free of submerged aquatic vegetation. Moderate amounts of common salvinia (*Salvinia minima*) were observed throughout most of the lake. These plants were present along most of the shoreline. Also, numerous common salvinia plants (some forming large mats) were observed floating through the middle of the lake. These plants were being wind driven north to south due to a north wind. Other plants observed in light amounts during the survey were water hyacinth (*Eichhornia crassipes*), water lettuce (*Pistia stratiotes*), alligatorweed (*Alternanthera philoxeroides*), water paspalum (*Paspalum repens*), and pennywort (*Hydrocotyle umbellate*).
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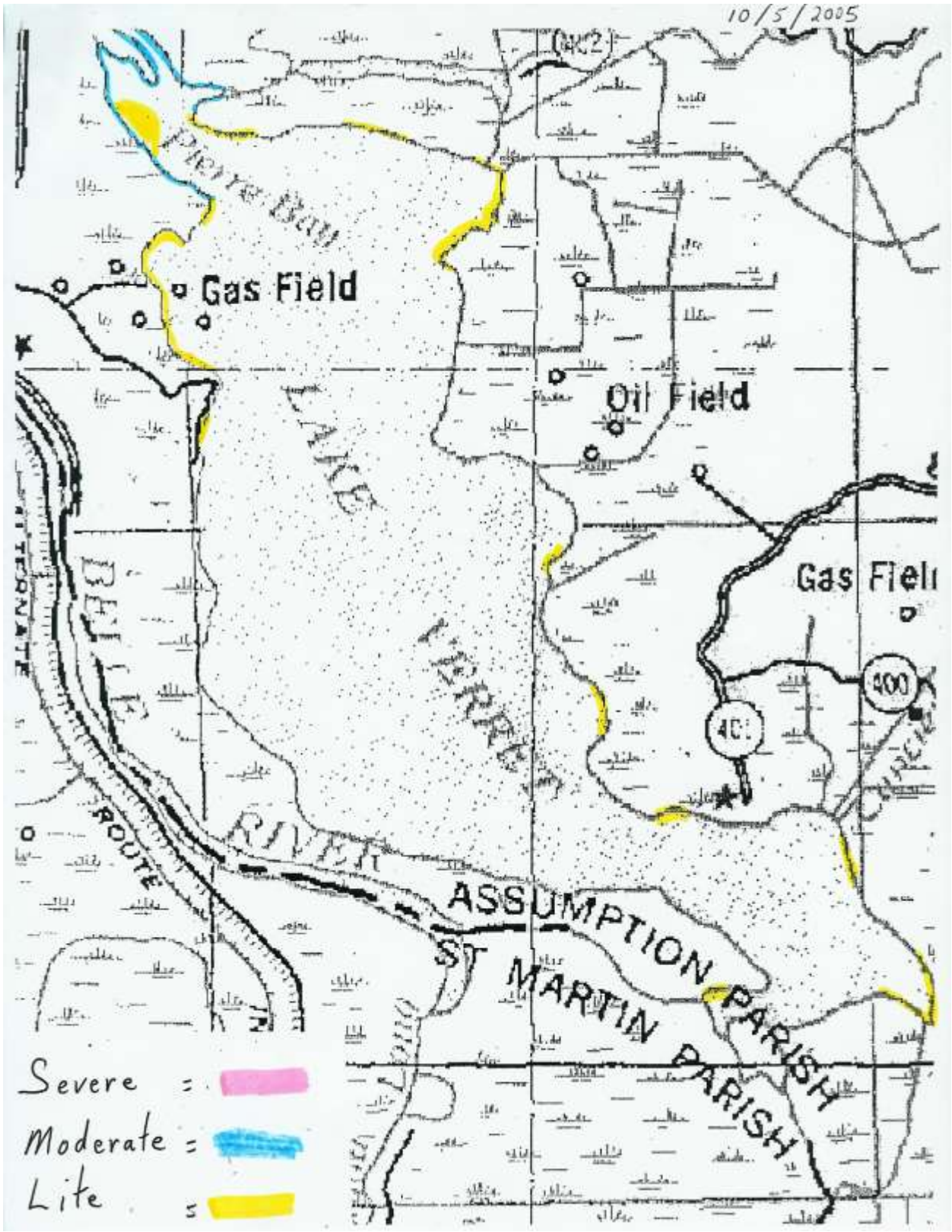
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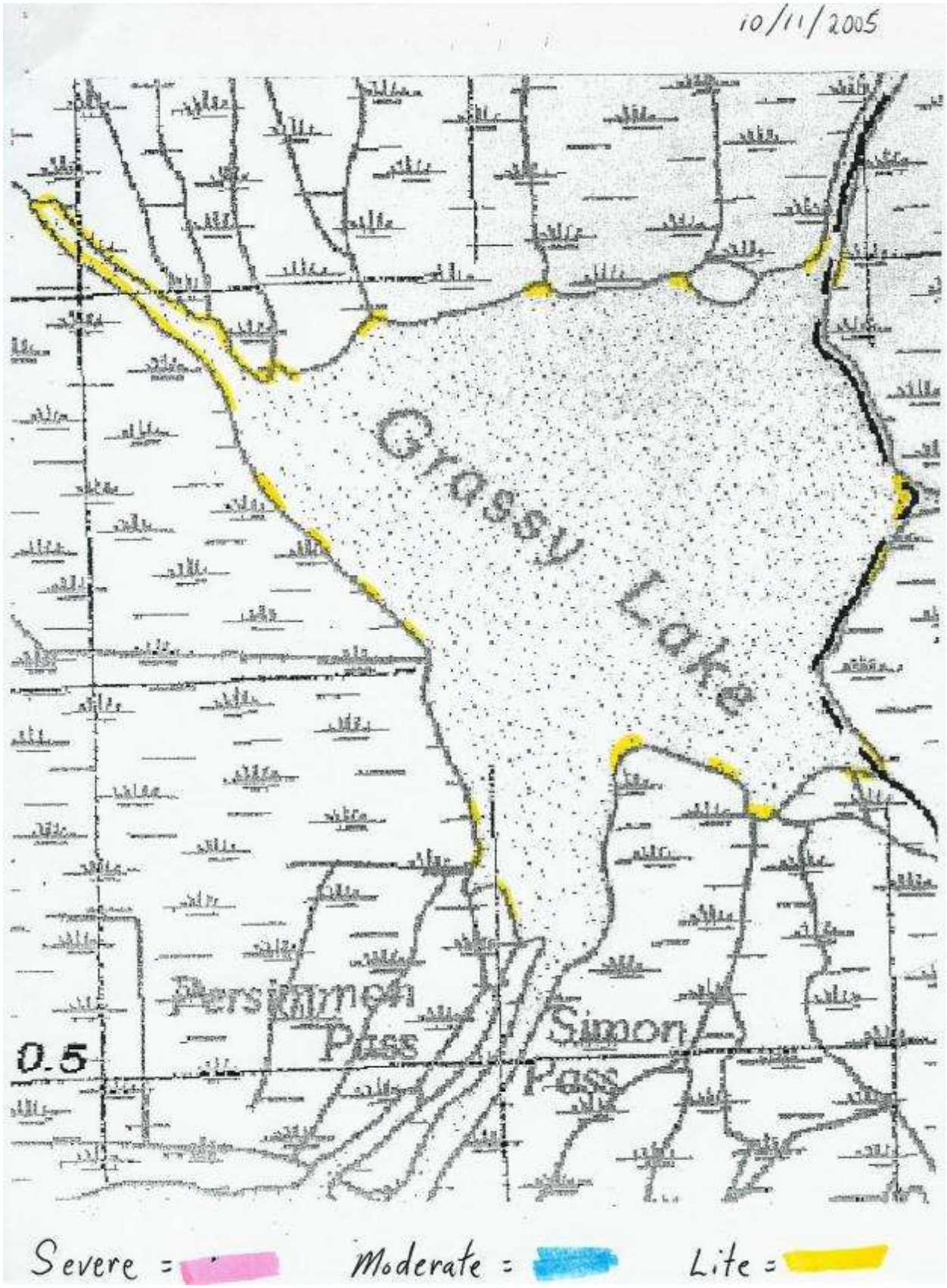
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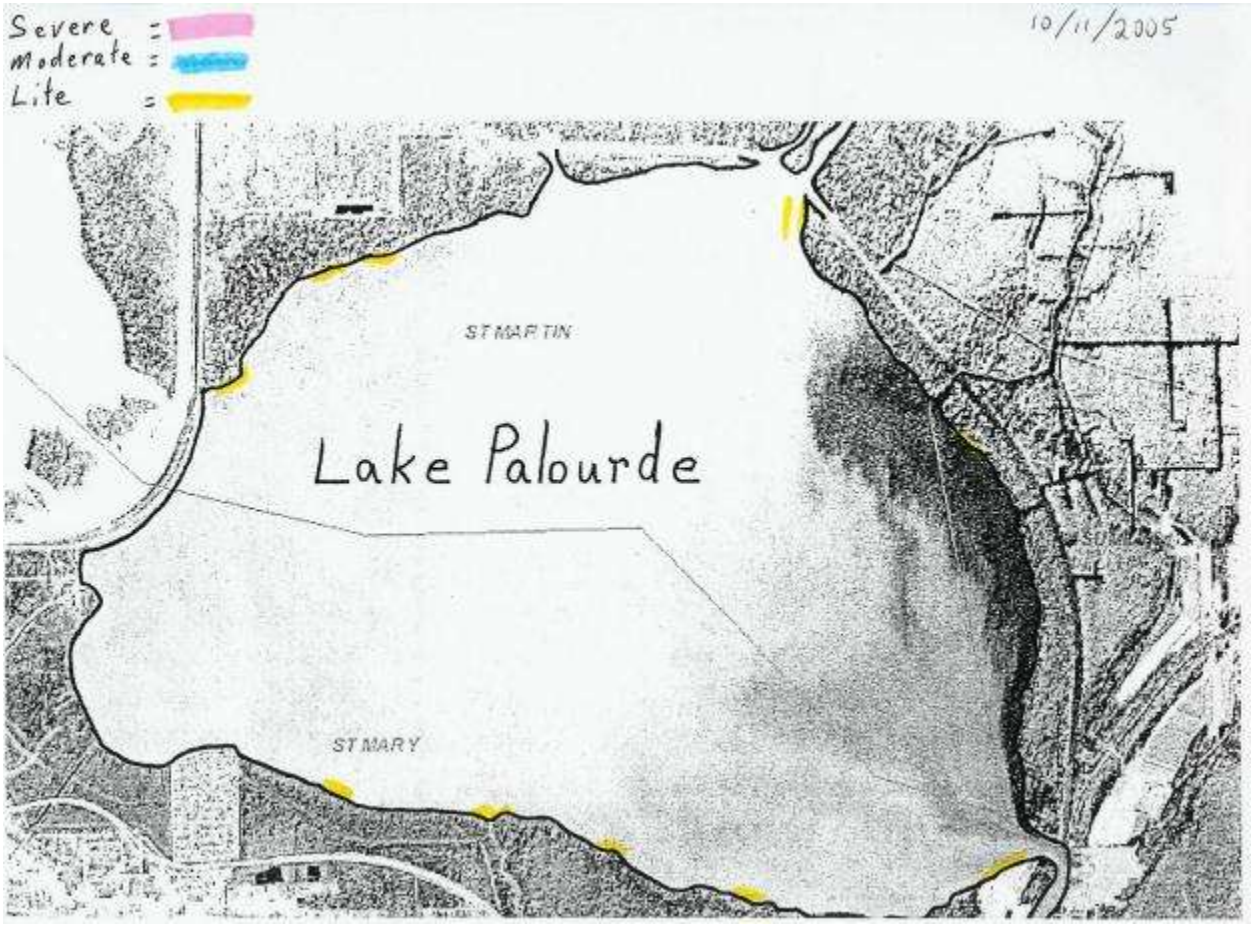
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ST MARTIN
Lake Palourde
ST MARY

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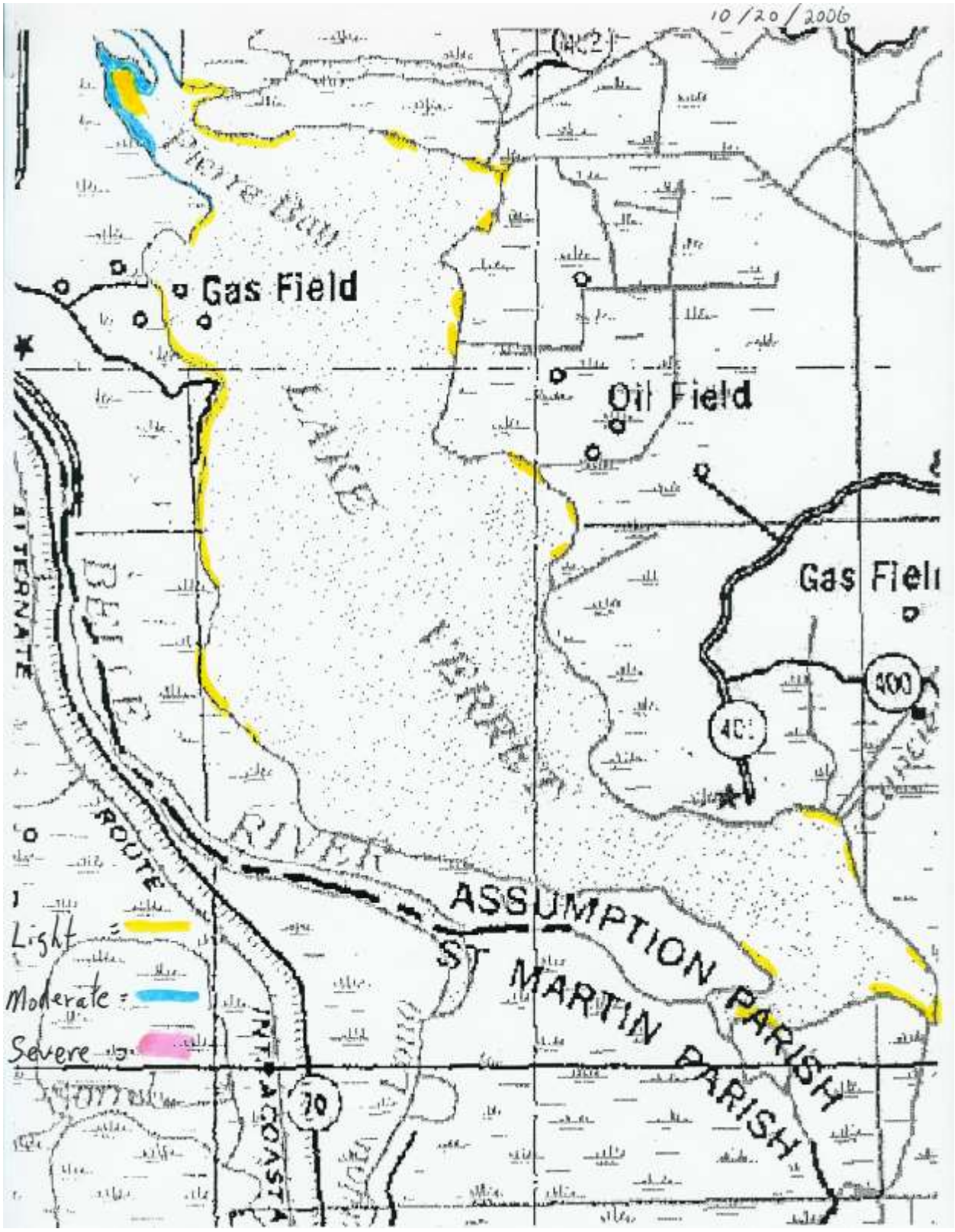

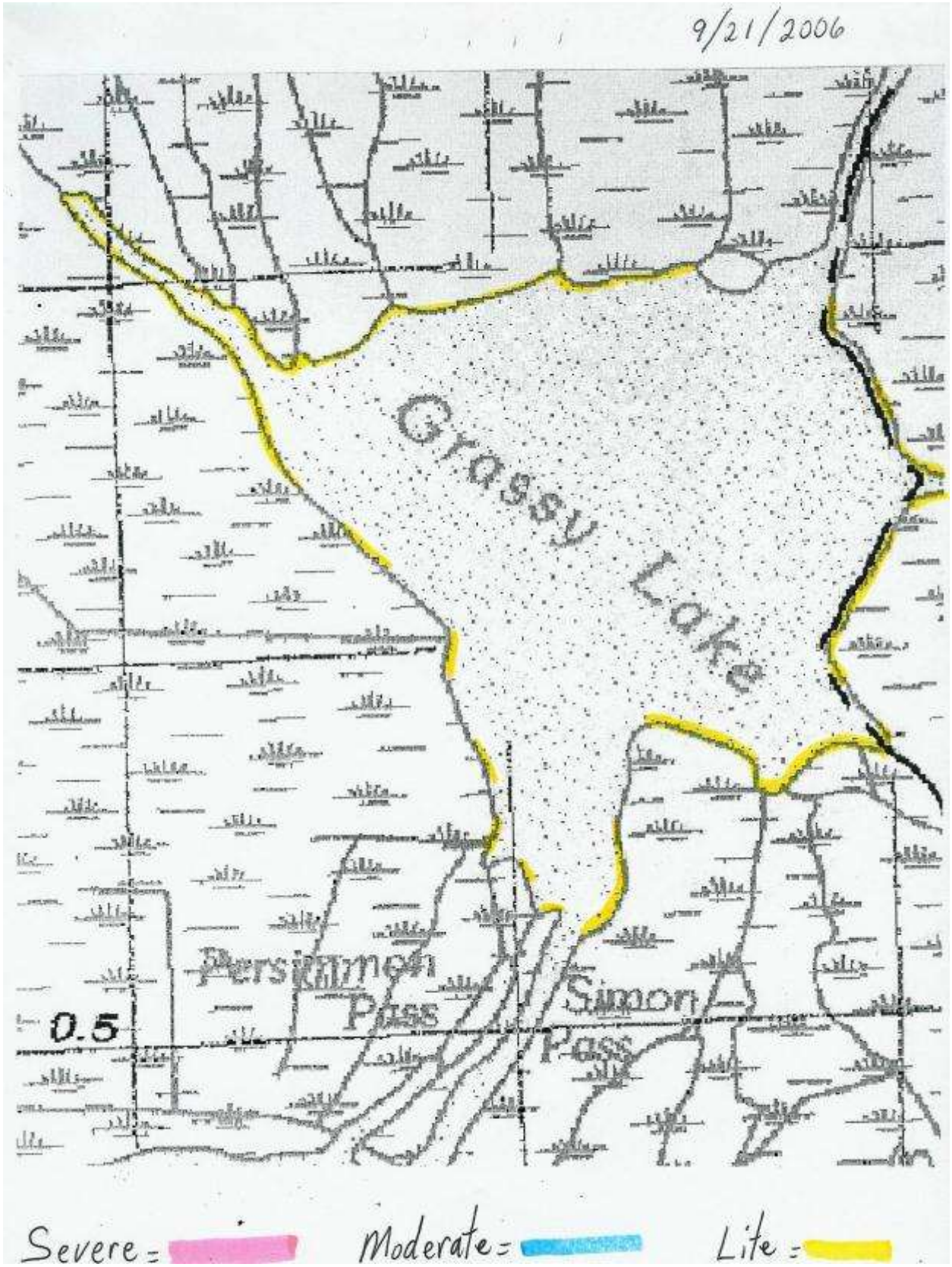
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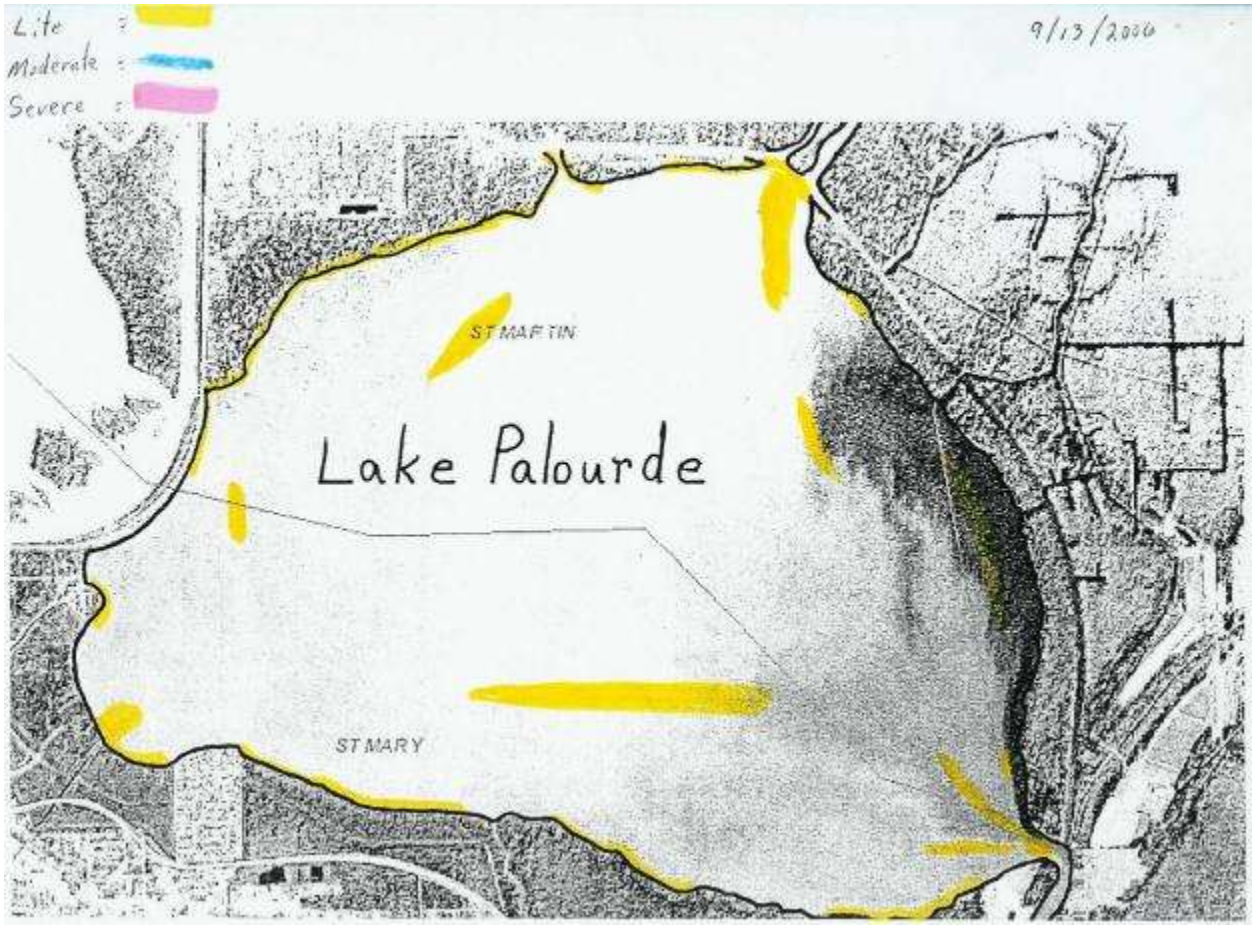

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APPENDIX VI – LADEQ MERCURY DATA

This data last updated on: 06/19/02 (reference: LADEQ)

SITE	SHORT NAME	DATE	RESULT	NO.	AVE. WT. grams	AVE. LENGTH cm	COMMON NAME
144	Lake Verret at Attakapas	5/22/1996	0.075	3	207.9	25	BLACK CRAPPIE
144	“	5/22/1996	0.078	1	3288.6	65	FLATHEAD CATFISH
144	“	5/22/1996	0.11	3	859.9	34.9	FRESHWATER DRUM
144	“	5/22/1996	0.132	5	306.2	28.9	LARGEMOUTH BASS
144	“	5/22/1996	0.154	6	118.1	21.3	BLACK CRAPPIE
144	“	5/22/1996	0.179	4	730	39.2	FRESHWATER DRUM
144	“	5/22/1996	0.214	7	461.7	33.7	LARGEMOUTH BASS
144	“	5/22/1996	0.411	3	708.8	36.7	LARGEMOUTH BASS
144	“	5/22/1996	0.423	1	1786.1	50.1	LARGEMOUTH BASS
144	“	5/22/1996	0.452	3	963.9	41.3	FRESHWATER DRUM
144	“	5/22/1996	0.59	3	1871.1	59.5	BOWFIN
144	“	5/22/1996	0.625	4	326	27.9	BLACK CRAPPIE
144	“	5/22/1996	0.681	1	1105.7	41.5	LARGEMOUTH BASS
144	“	5/22/1996	0.694	1	1332.5	45.5	FRESHWATER DRUM
144	“	5/22/1996	0.837	1	3458.7	69.5	BOWFIN
144	“	5/22/1996	1.31	1	1134	46.8	LARGEMOUTH BASS
144	“	5/22/1996	0.001	1	510.3	40.1	BLUE CATFISH
144	“	5/22/1996	0.001	1	538.7	40.4	CHANNEL CATFISH
144	“	9/25/1997	0.0592	1	5273.1	69	BLUE CATFISH
144	“	9/25/1997	0.0648	1	3713.9	64.5	FLATHEAD CATFISH
144	“	9/25/1997	0.0797	4	226.8	23.6	BLACK CRAPPIE
144	“	9/25/1997	0.0881	2	2225.5	58.3	BLUE CATFISH
144	“	9/25/1997	0.0929	5	595.4	37.5	CHANNEL CATFISH
144	“	9/25/1997	0.1064	5	499	30.3	BLACK CRAPPIE
144	“	9/25/1997	0.1081	4	318.9	27.9	WHITE CRAPPIE
144	“	9/25/1997	0.1217	6	330.7	27	BLACK CRAPPIE
144	“	9/25/1997	0.1256	4	1098.6	40	LARGEMOUTH BASS
144	“	9/25/1997	0.1367	1	1757.7	46	LARGEMOUTH BASS
144	“	9/25/1997	0.1445	6	420.5	28.9	BLACK CRAPPIE
144	“	9/25/1997	0.1617	4	1197.8	41.5	LARGEMOUTH BASS
144	“	9/25/1997	0.1821	5	844.8	37.7	LARGEMOUTH BASS
144	“	9/25/1997	0.2257	4	411.1	30.6	LARGEMOUTH BASS
144	“	9/25/1997	0.2365	5	691.7	37	FRESHWATER DRUM
144	“	9/25/1997	0.241	2	680.4	35.1	LARGEMOUTH BASS
144	“	9/25/1997	0.3771	1	3090.2	67	BOWFIN
144	“	10/31/2000	0.0181	2	1488.4	51.6	BLUE CATFISH
144	“	10/31/2000	0.0296	2	822.2	43	CHANNEL CATFISH
144	“	10/31/2000	0.0557	8	389.8	27.8	BLACK CRAPPIE
144	“	10/31/2000	0.0593	1	2664.9	60.3	FLATHEAD CATFISH
144	“	10/31/2000	0.0681	7	295.7	25.7	BLACK CRAPPIE
144	“	10/31/2000	0.0712	5	555.7	31.4	BLACK CRAPPIE
144	“	10/31/2000	0.0787	4	758.4	37.7	LARGEMOUTH BASS
144	“	10/31/2000	0.0901	1	5953.5	75.2	BLUE CATFISH

144	“	10/31/2000	0.1238	2	935.6	41.1	LARGEMOUTH BASS
144	“	10/31/2000	0.125	5	551.3	35.1	FRESHWATER DRUM
144	“	10/31/2000	0.1534	3	500.9	31.5	LARGEMOUTH BASS
144	“	10/31/2000	0.2208	3	831.6	38.2	LARGEMOUTH BASS
144	“	10/31/2000	0.2787	1	1729.4	53.3	BOWFIN
144	“	10/31/2000	0.2888	4	701.7	36.1	LARGEMOUTH BASS
144	“	10/31/2000	0.3489	2	1006.4	39.3	LARGEMOUTH BASS
144	“	10/31/2000	0.3588	1	1190.7	49.8	BOWFIN
144	“	10/31/2000	0.4633	1	2012.9	59	BOWFIN
144	“	8/2/2004	0.0782	4	763.8	38.9	FRESHWATER DRUM
144	“	8/2/2004	0.0905	1	4890	74	FLATHEAD CATFISH
144	“	8/2/2004	0.091	7	335	27.1	BLACK CRAPPIE
144	“	8/2/2004	0.0994	8	295	25.3	BLACK CRAPPIE
144	“	8/2/2004	0.1401	4	593	35.1	FRESHWATER DRUM
144	“	8/2/2004	0.1541	1	1145	40.7	LARGEMOUTH BASS
144	“	8/2/2004	0.1586	1	1145	40.7	LARGEMOUTH BASS
144	“	8/2/2004	0.1622	1	300	24.7	WHITE BASS
144	“	8/2/2004	0.1626	1	1090	42.3	FRESHWATER DRUM
144	“	8/2/2004	0.167	3	721.7	35.5	LARGEMOUTH BASS
144	“	8/2/2004	0.2025	5	427	30.6	LARGEMOUTH BASS
144	“	8/2/2004	0.2585	2	867.5	37.7	LARGEMOUTH BASS
144	“	8/2/2004	0.2652	1	2395	58.6	BOWFIN
144	“	8/2/2004	0.4188	6	514	30.7	BLACK CRAPPIE
144	“	8/2/2004	0.5563	1	4320	72.5	BOWFIN
144	“	8/2/2004	0.8692	1	2455	64	BOWFIN

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APPENDIX VII – COASTAL PLANNING DOCUMENTS

Louisiana Coastal Wetlands Conservation and Restoration Task Force and the Wetlands Conservation and Restoration Authority. 1998. Coast 2050: Toward a Sustainable Coastal Louisiana.
Louisiana Department of Natural Resources. Baton Rouge, La. 161 p.

REGION 3 STRATEGIC PLAN

Habitat Objectives
Habitat objectives for the year 2050 were first suggested by parish governments and representatives of local coastal zone advisory committees. Then, as the Regional Planning Team developed strategies, the habitat objectives were revised to correlate with the strategies. These revised objectives were approved by the parishes. Generally, parish governments and the public in Region 3 would like to maintain present habitats in areas above the Gulf Intracoastal
Waterway and revert to past habitats in areas below the Gulf Intracoastal Waterway (Figs. 7-7, 7-8)

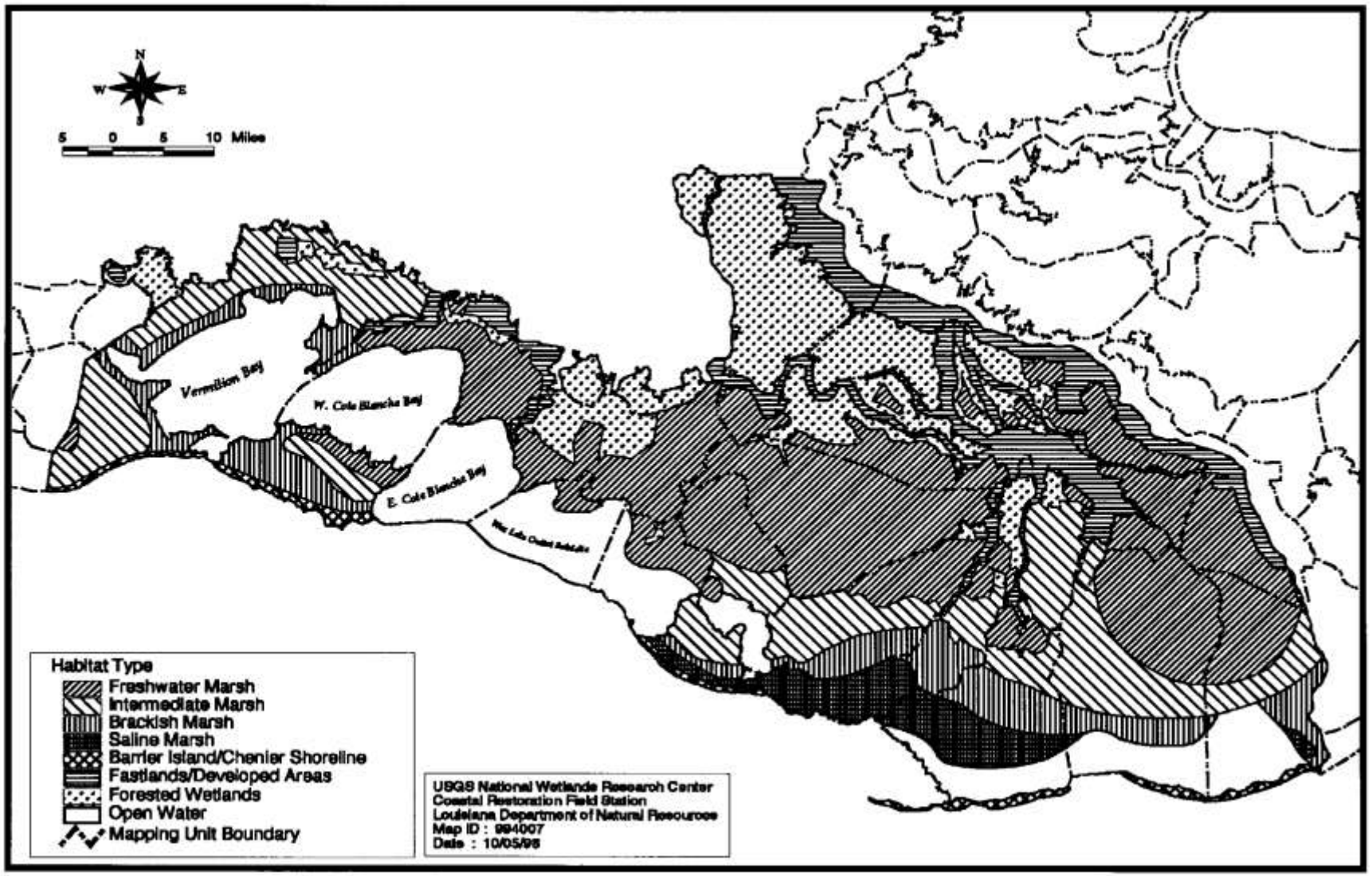

Figure 7-7. Coast 2050 habitat objectives for Region 3.

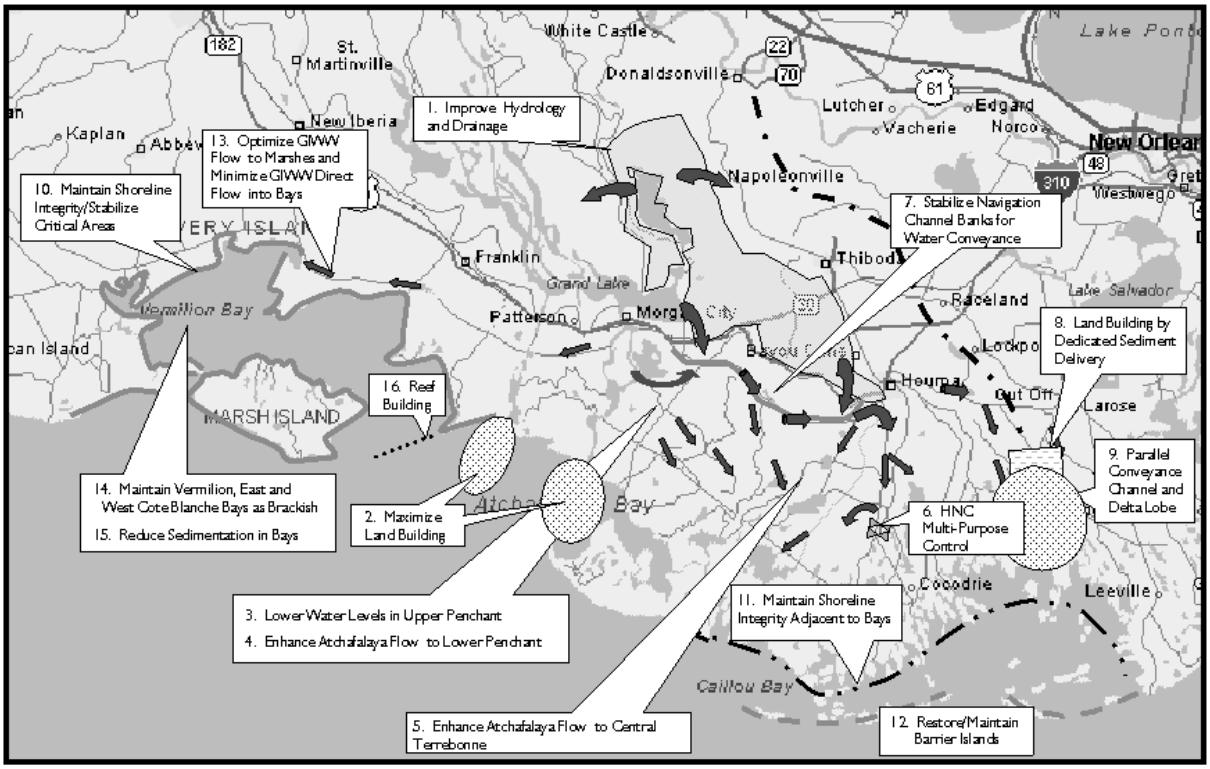

Figure 7-8. Coast 2050 Region 3 regional ecosystem strategies.

Regional Ecosystem Strategies

Restore Swamps

1. Improve hydrology and drainage in the Verret Subbasin. Implementation of a flood protection feature from the USACE Lower Atchafalaya River Reevaluation Study would alleviate the problems associated with chronic and excessive backwater flooding that is largely due to Atchafalaya River influence. This feature, known as the "Barrier Plan," would block water exchange from south to north at U.S. Highway 90 between Morgan City and Houma. Pumps would be installed to remove excess water from the Verret Subbasin. The effect of this action on floating marshes in the Penchant Subbasin is uncertain at this time, but the water should be distributed so as not to impact these wetlands. Additional measures, such as introducing supplemental water from the Atchafalaya River or the Mississippi River to the Verret Subbasin during drought conditions to address water quality needs, would be considered. Implementation of this strategy would benefit about 200,000 acres of forested wetlands and prevent most future swamp loss. The strategy would protect the affected communities, industries, and agricultural lands from flooding.

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